MENTALLY ILL OFFENDER CRIME REDUCTION GRANT (MIOCRG) PROGRAM

Program Evaluation Survey

ALAMEDA COUNTY DESIGN I. *CHANGES*

1. Key Research Contacts:

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Program Name:

Grant recipients have found it useful to pick a name that helps them to create a Program identity. Two examples are the IMPACT (Immediate Mental Health Processing, Assessment, Coordination and Treatment) project and the Connections Program. Indicate the name you will use to refer to your program.

Response: *CHANGES* Dual Recovery Program

Research Design:

a. Check (✓) the statement below that best describes your research design. If you find that you need to check more than one statement (e.g., true experimental and quasi-experimental), you are using more than one research design and you will need to complete a separate copy of the survey for each design. Also, check the statements that describe the comparisons you will make as part of your research design.

	Research Design (Check One)
X	True experimental with random assignment to enhanced treatment and treatment-as-usual groups
	Quasi-experimental with matched contemporaneous enhanced treatment and treatment-as-usual groups
	Quasi-experimental with matched historical group
	Quasi-experimental interrupted time series design
	Quasi-experimental regression-discontinuity design
	Quasi-experimental cohort design
	Other (Specify)
	Comparisons (Check all that apply)
	Post-Program, single comparison between enhanced treatment and treatment-as-usual groups
	Post-Program, repeated comparisons (e.g., 6 and 12 months after program separation) between and within enhanced treatment and treatment-as-usual groups

	Pre-Post assessment with single post-program comparison between enhanced treatment and treatment-as-usual groups
X	Pre-Post assessment with repeated post-program comparisons (e.g., 6 and 12 months after program separation) between and within enhanced treatment and treatment-as-usual groups
	Pre-Post assessment with repeated pre and post program comparisons between and within enhanced treatment and treatment-as-usual groups
X	Other (Specify): Sub-group comparisons of the CHANGES group. See footnote.[1]

b. If you are using a historical comparison group, describe how you will control for period and cohort effects.

Response:NA

Target Population:

Please identify the population to which you plan to generalize the results of your research. Describe the criteria individuals must meet to participate in the enhanced treatment and treatment-as-usual groups (e.g., diagnosis, criminal history, residency, etc.). Also, please describe any standardized instruments or procedures that will be used to determine eligibility for program participation and the eligibility criteria associated with each instrument.

Response:

The target population is mentally ill offenders with concurrent substance abuse/dependence diagnoses. Although the evaluation criteria limit this general population to some extent, we believe the finding from the study will generalize to all dual diagnosis mentally ill offenders.

Enhanced Treatment Group:

1. Indicate the process by which research subjects will be selected into the pool **from which** participants in the enhanced treatment group will be chosen. For example, this process might include referrals by a judge or district attorney, or selection based on the administration of a mental health assessment instrument.

Response:

The pool is comprised of all those identified using the criteria below. That is all persons meeting the criteria enter the "pool." They are then randomized into treatment or control conditions.

I. Eligibility for the Housing Unit One Telecare In-custody Program requires meeting the criteria in A, B and C.

A. Mental disorder: DSM IV diagnosis determined at index incident of in-custody treatment.
All DSM IV diagnoses are eligible with the exception of substance use disorder (as primary Axis I diagnosis), developmental disorder, or acquired traumatic brain disorder. Participants must also have a secondary Axis I diagnosis of substance abuse or dependence (including alcohol). Antisocial personality disorder may not be the only other diagnosis besides the substance use disorder.

[1] The independent evaluator will collect and analyze a variety of "real time" measures collected by the Telecare information system using the CAMINAR data base. This will permit us to understand in much greater detail a) which types of clients are responsive to the different kinds of treatment (ACT, case management, self-help) and b) what levels of input are associated with given amounts of individual change. In short, analysis of the detailed assessment and service data collected by Telecare for CHANGES clients will permit us to understand much more about the change process itself.
The same detailed evaluation of mental illness and substance abuse that was conducted at intake will be repeated using the PRISM two years after admission. Other harm reduction measures will also be included (such as exposure to HIV). Assuming that the broad outcome measures discussed under "hypothesis testing" below show the CHANGES intervention to be effective at reducing jail recidivism and costs, this evaluation (along with the CAMINAR data) will a) permit us to determine whether other important outcomes also changed (such as amount of substance abuse and housing stability) b) provide an understanding of the mechanisms by which the larger goals were achieved, and b) allow us to examine subgroups having greater or lesser degrees of outcome success.

AND:

B. Serious functional impairments or psychiatric history such that without treatment, there is imminent danger of further decompensation (especially in terms of the ability to engage in independent living, positive social relationships, and vocational opportunities). In making this determination the Criminal Justice Mental Health clinicians will review the person's history of psychiatric hospitalization, use of SSI, GA and other income supports, history of homelessness and on-going family relationships.

AND

C. The inmate is not a parolee, on his way to prison, or a resident of another county.

II. Additional eligibility requirements for research subjects (experimental and control)

A. Participants must have at least two documented *previous* in-custody events in Alameda County during the period January 1, 1998–December 31, 2000; OR participants must have spent at least 90 days in the CJMH unit during the same period of time (including the index incarceration).
B. Persons with open records at a mental health or substance abuse treatment programs who have received at least one service during the 90 days prior to the index arrest are excluded from the experimental and control groups as we otherwise could not measure a major outcome variable: stable links to a treatment provider.
C. COGNITIVE CAPACITY.
Regardless of diagnosis, study participants must have enough cognitive capacity to participate meaningfully in a program that is based on personal choice. Telecare in-custody clinicians will make this determination based on the results of a standardized assessment instrument such as the Mini-Mental Status exam.

D. READINESS FOR TREATMENT
Although integrated assertive treatment (ACT teams) have been implemented in a number of the MIOCRG counties, little is known regarding how randomized assignment of offenders to such teams will affect program functioning. One program reported on in the literature found many offenders assigned to ACT randomly to be actively resistant to treatment, and their presence was disruptive.[2] Thus to maximize the utilization of scarce resources and ensure there is at least a minimum fit between client needs and capabilities and the program design, potential participants will be screened using a treatment readiness scale linked to the stages of engagement treatment model in the intervention.
E. CRIMINAL JUSTICE STATUS AT TIME OF ASSIGNMENT
Because of the need for complex diagnostic work-up and a "detoxification" period, only individuals who have been in custody at least two weeks AND have received a complete evaluation and assessment by Telecare in-custody staff AND have completed the research protocol assessment including signing all informed consent and release of information forms will be eligible.
F. PARTICIPANT CONSENT AND RELEASE OF INFORMATION
1. In order to be eligible to participate, CJMH inmates must sign a detailed informed consent to study participation..[3]

[2] This was, however, an ACT program for prison parolees with substance abuse problems. Martin, S. S., J. A. Inciardi, et al. (1997). Case Management for Drug Involved Parolees: It Proved to be a Hard ACT to Follow. The Effectiveness of Innovative Approaches in the Treatment of Drug Abuse. F. M. Tims, J. A. Inciardi, B. W. Fletcher and A. M. Horton Jr. Westport, Greenwood Press.

[3] We are not planning to submit the research to a federally required IRB. Reasons for not seeking IRB review are: A) All participants will be receiving upgraded services. B) The Changes program is being offered to high service utilizing dual diagnosis clients in Alameda County independent of this grant [though not to offenders], thus the program is not "experimental" in the Alameda system of care. C) The evaluation design is designed to maximize data collection from

2. Participants must also sign an information release form permitting research use of data from administrative data bases already available as part of the collaboration between the Alameda Sheriff and the Alameda Behavioral Health Care departments.

G. LINGUISTIC CAPACITY.
Only persons who are proficient in either Spanish or English may be included in the CHANGES study groups.

IV. INSTRUMENTS TO BE USED (No minimum standard is required, however, except for Mini-Mental Status)

- URICA Stages Of Change Instrument for the Dually Diagnosed
- CMHEI Case Manager Rating of Alcohol/Drug Use
- Multnomah Community Abilities Scale: For Changes and Control Group in Addition to POS
- PRISM Dual Diagnosis Assessment Instrument to be Used Before Randomization and Two Years Later (for CHANGES)
- Circumstances, Motivation, and Readiness Scales
- Mini-Mental Status

2. Indicate exactly how the enhanced treatment group will be formed. For example, it may result from randomized selection from the pool described in 5a above. Or, if the group size is small, a matching process may be required to achieve equivalence between the enhanced treatment and treatment-as-usual groups. In the case of a quasi-experimental design, the group may be a naturally occurring group. Please describe the origins of this group in detail, including an identification and description of matching variables, if used. If a quasi-experiment is planned, please describe the origins and nature of naturally occurring enhanced treatment groups.

Response:

1. A full-time Research Clinician will assign eligible participants to the experimental (CHANGES) program or the control program randomly.[4] Clients and clinicians will become aware of the study group assignment at the latest time feasible in order to avoid knowledge of the status affecting in-custody treatment.
2. Statistical power will be increased if we can assign randomly within strata which have some prognostic strength.[5] Whether this will be possible is an empirical question depending on a large number of logistic and client characteristic variables. If stratification is possible, the variables we will consider using are:
   - Predicted retention in treatment (based on the Circumstances, Motivation, and Readiness Scales).
   - Diagnosis (schizophrenia vs. other diagnoses; alcohol disorders vs. other drug disorders)
   - Criminal justice history (felons vs. misdemeanants)
3. Even a perfectly randomized experiment can be damaged by non-random attrition. The Circumstances, Motivation, and Readiness Scales (18 item) will be administered at the time of the index incarceration by a Research Clinician in order to predict retention in treatment. This is important since significant attrition is likely, at least in the control group, and we want to be able to judge how much of the attrition is related to predisposing attributes. That is, in comparing

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administrative and already mandated sources [criminal justice and mental health MIS and the Performance Outcome System] rather than interviews with clients. D) The research criteria for participation are essentially the same as would be required for the Changes program absent the research. E) Finally, both informed consent and information release are required and confidentiality protections will be in force.

[4] "Restricted randomization" will be used, that is eligible inmates will be assigned randomly in "blocks" of 2, 4 or 6 subjects. This avoids unequal numbers of subjects in the two study groups.

[5] Random assignment in blocks while stratifying can become very complex. Fortunately statistical software exists to manage the problem: Ryan, P. (1998). Random allocation of treatments in blocks. *Stata Technical Bulletin, 41*, 43-46.

experimental and control groups on attrition we would like to be able to "hold constant" initial motivation and readiness for treatment.

2. **Treatment-as-Usual (Comparison) Group**:
   - Indicate the process by which research subjects will be selected into the pool **from which** participants in the treatment-as-usual group will be chosen.

   Response:
   Same as for enhanced treatment group.

   - Indicate exactly how the treatment-as-usual group will be formed. For example, if a true experiment is planned, the treatment-as-usual group may result from randomized selection from the subject pool described in 5a above. Or, if the group size is small, a matching process may be required in an attempt to achieve treatment-control group equivalence. If a quasi-experimental design is planned, the group may be a naturally occurring group. Please describe the treatment-as-usual group in detail, including an identification and description of matching variables, if used. If a quasi-experiment is planned, please describe the origins and nature of naturally occurring comparison groups.

   Response:
   Same as for enhanced treatment group.

Historical Comparison Group Designs (only):

If you are using a historical group design in which an historical group is compared to a contemporary group, please describe how you plan to achieve comparability between the two groups.

Response:

NA

Sample Size:

This refers to the number of individuals who will constitute the enhanced treatment and treatment-as-usual samples. Of course, in any applied research program, subjects drop out for various reasons (e.g., moving out of the county, failure to complete the program). In addition, there may be offenders who participate in the program yet not be part of the research sample (e.g., they may not meet one or more of the criteria for participation in the research or they may enter into the program too late for you to conduct the follow-up research you may be including as part of the evaluation component). Using the table below, indicate the number of individuals that you anticipate will complete the enhanced treatment or treatment-as-usual interventions. This also will be the number of individuals that you will be including in your statistical hypothesis testing to evaluate the program outcomes. Provide a breakdown of the sample sizes for each of the three program years, as well as the total program. Under Unit of Analysis, check the box that best describes the unit of analysis you will be using in your design.

Sample Sizes (Write the expected number in each group)		
Program Year	Treatment Group	Comparison Group
First Year	100	100
Second Year	98	94
Third Year	94	92
Total	100	100

Unit of Analysis (Check one)	
X	Individual Offender
	Geographic Area
	Other:

NOTE: We are using an “intent to treat” design. Regardless of whether clients remain in contact with their assigned service providers they will remain in the study. What is listed above is anticipated attrition due to death, moving out of the county, or being unlocatable on any Alameda County data base to which we have access. Sample size will differ to some extent by analysis. As noted later, Performance Outcome System measures will only be done on CHANGES clients and comparison clients with a case manager. Other analyses, i.e. survival analysis will be performed using administrative data. In this case all those who have not died or left the county will remain in the analysis groups even if they may have left CHANGES or comparisons who are no longer in treatment. Certain measures apply only to the CHANGES study group (focused on which types of clients do better, i.e. subgroup analysis).

Enhanced Treatment Group Interventions:

Describe the interventions that will be administered to the enhanced treatment group. Please indicate of what the interventions will consist, who will administer them, how they will be administered, and how their administration will be both measured and monitored.

Response:

Alameda County Behavioral Health Care—in conjunction with Telecare Corporation—will provide the experimental program called CHANGES.

The CHANGES program uses approaches empirically demonstrated to be effective in facilitating recovery from substance abuse, mental health or both, and applies them to the single process of a dual recovery. In addition, it incorporates approaches tested with mentally ill and substance abusing offenders—particularly the involvement of the courts and probation officer supervision.

SERVICE PRINCIPLES

The model is based on five principles.

1. Stage-Wise Treatment/Stages of Change Model: Clients respond positively to interventions that are sensitive to their stage of readiness to change. The Stages of Change approach originates in the world of substance abuse. However, in a dual diagnosis program clients face the need to change both their use of substances *and* their participation in the treatment of their mental illness. They do this within a single, personal recovery process. The Stages of Change approach identifies five stages of readiness for change and the most effective interventions for each. A brief definition of each stage from the perspective of the client is:

PRECONTEMPLATION: I'm not interested in change.

CONTEMPLATION: I'm thinking about change

PREPARATION: I'm actively developing my plan of action

ACTION: I'm actively modifying my behaviors and environment

MAINTENANCE: I'm maintaining my new behaviors

Clients in recovery often move back and forth between stages as a part of their movement in recovery.[6] Objective measures of the success of interventions for each stage are reported.

2. Motivational Interventions and Motivational Interviewing. Motivational Interviewing is a set of interventions developed by William Miller and Stephen Rollnick to engage and motivate clients.[7] Motivational Interviewing uses special engagement techniques to help clients who recognize the extent to which alcohol (and other drugs) are contributing to significant life problems. It is key in helping clients become ready to examine the consequences of their choices and behaviors and accept substance abuse treatment.

3. Harm Reduction. Harm Reduction is generally defined as a set of strategies and tactics that encourage users to reduce the harm done to themselves and communities by their substance use. It is equally applicable for clients who have problems accepting effective treatment of their mental illness. This program uses the concept of harm as a point of focus or an organizing principle. Harm appears in many forms, from lack of self-respect, to damaged relationships, to unstable living situations, to unsafe sex, to use of expensive inpatient psychiatric services and jail recidivism. Reducing the amount of harm in one's life is a primary goal of the recovery process and of the interventions.

[6] Ibid.

[7] Motivational interviewing is extensively documented. See http://www.motivationalinterview.org/ for a bibliography and resources.

4. Personal Strength Increase. This is a model of interactions with clients that is based on the following principles (from The Strengths Model authored by Charles A. Rapp[8]):

- The focus is on individual strengths rather than pathology
- The community is viewed as an oasis of resources
- Interventions are based on client self-determination
- People suffering from major mental illness can continue to learn, grow, and change

Telecare's Client Information System gives substance to the word "Strengths" with measures of the client's perception of the amount of his or her personal strengths.

5. Recovery Focus. The essence of CHANGES is supporting people in their personal recovery from mental illness and substance abuse. The focus is a single recovery process, recovering from the problems, identified by the client that have resulted in the harm in one's life. The program works with clients, families and others of importance to the client, building on the client's strengths and the hopes that clients have for themselves. CHANGES' Client Information System provides measures of the clients' progress in their personal recovery.

PROGRAM STRUCTURE AND DESIGN

The program structure is designed to bring the most effective staff skills and program services to the client matching his/her stage of readiness, maximizing the effective management of the clinical and fiscal risk presented by the client. It also serves as a resource for information and training for providers. There are four components to the program design, each with its own purpose, targeted client group, type of intervention and objective measures (outcome) of success.

1. Engagement and Discharge Planning Component
2. Services Component
3. Self-Help Component
4. Court and probation involvement

Engagement and Discharge Planning Component: Clients will initially be met and assisted by the CHANGES team while in jail. The team will engage with the client while working with the client toward goals related to their discharge and recovery needs. Identifying the client's strengths, desires, areas of harm and impact on his/her life will be part of this initial engagement process. The team will work with correctional staff, the probation department, the client, the client's family, and discharge resources.

Services Component: There are two major service components 1) an assertive community treatment team (ACT) and 2) an intensive case management team. Clients can be assigned to either team depending on the intensity of their needs. Clients needing more intensive community support to be successful will be assigned to the ACT team which has a 1:10 clinical staff to client ratio. The intensive case management component will provide similar services, but for individuals with less intensive needs requiring a 1:15-1:20 staff to client ratio. Services provided will include mental health services, case management, rehabilitation and recovery services, and pre-vocational services. Both the ACT team and the Intensive Case Management Team will include clinicians (MFTs, LCSWs, RNs, psychiatrist), paraprofessionals and administrative staff. As discussed below, both teams may include a probation officer who will be responsible for reports to the courts, drug testing, and collaboration with the treatment team regarding legal issues. The team will coordinate the individual's care and progress toward personal goals.

Self-Help Component: Once clients have obtained and maintained their recovery goals they will be invited to participate in the self-help oriented Recovery Center. The Recovery Center will be an area of the facility to socialize with others in various phases of recovery, view educational materials, seek resources related to housing or employment, support others newly in recovery, and relax and enjoy their leisure time. Building a

[8] Rapp, C. (1997). *The Strengths Model: Case Management with People Suffering from Severe and Persistent Mental Illness.* Oxford: Oxford University Press.

support system, growing healthy relationships with others, and learning new skills will be part of this component.

Court and Probation Involvement: It is expected that the Alameda County Probation Department will assign two probation officers to work with this population on the CHANGES team. The probation officers will serve as a member of the intensive case management and ACT teams, serving as a liaison to the courts, and supervising adherence to probation requirements such as drug testing and living in a clean and sober environment.

Treatment-as-Usual Group Interventions:

Describe the interventions that will be administered to the treatment-as-usual group. Please indicate of what the interventions will consist, who will administer them, how they will be administered, and how their administration will be both measured and monitored.

*Response***:**

"Treatment as usual" historically involved stabilization rather than treatment (while in-custody) and minimum aftercare arrangements. No transitional services were available although clients were eligible for (and some used) the service continuum provided by Alameda County Behavioral Health Care. Treatment as usual is being enhanced through the MIOCR grant.

Expanded in-custody treatment

The plan also includes an enhancement of treatment services to the seriously and persistently mentally ill in custody. A contract with Telecare Corporation, a long-time mental health provider in Alameda County, will significantly improve the availability of in-custody treatment.

Telecare MHS Staffing Pattern

Position	*FTE*
Psychiatrist	1.0
Psychologist/Administrator	1.0
L.C.S.W./M.F.C.C.	3.0

The range of services that will be available through Telecare MHS includes the following:

- Assessment
- Consultation
- Medication Assessment
- Medication Management
- 1:1 counseling
- Referral to services—substance abuse services, medical services
- Skill Development
- Crisis Intervention and Brief Therapies
- Discharge Needs Assessment
- Discharge Planning
- Discharge Resource Development
- Group Interventions including education sessions, when and if appropriate

Assessment is particularly important due to the complexities of diagnosing persons with co-occurring mental and substance use disorders.[9] The evaluation will include identification of strengths, problems, resources, needs, and goals as well as potential areas of harm once inmates are released. Telecare staff will work with inmates on a 1:1 basis to increase strengths, skills, and resources and reduce harm in order to achieve the desired goals.

After care linkage/Short-term Transition Team Services

A major component of the new "usual" services will be the development of aftercare linkages for all mentally ill offenders returning to the community after two weeks or more of incarceration. A plan will be jointly developed by Telecare staff and the inmate that addresses each of the inmate's goals . The short-term transition team will be staffed by two paraprofessional mental health staff with administrative staff support and access to a van. Whenever possible, an agency will be identified in the community which will provide services upon release. Inmates transitioning from the jail will be given priority access to community-based

[9] Carey, K. B., & Correia, C. J. (1998). Severe mental illness and addictions: assessment considerations. *Addict Behav, 23*(6), 735-748.

services. The transition team will have access to housing vouchers (approximately five rooms per night) to support immediate return to the community. Case managers from the identified agency will be invited to attend aftercare case conferences prior to release. Inmates being released locally will be given prescriptions by the psychiatrist. Inmates will be instructed on how to use the county pharmacy system to get the prescription filled upon release and be transported there if need be. However, mental health services alone are not sufficient. Though an inmate upon release continues his medication he may return to a homeless (or near homeless) situation. The transition team will use available housing vouchers and will work with the County housing resources, shelters, Berkeley Oakland Support Services, Bay Area Community Services, and other mental health and dual diagnosis housing services. The transition team bridges the in-custody and after-custody processes to avoid relapse and recidivism.

During the transition the clients will be linked (if willing and waiting to the usual Alameda County mental health and substance abuse services. These include regional teams and a full complement of services for both AOD and mental health conditions.

Treatments and Outcomes (Effects):

Please identify and describe the outcomes (treatment effects) you hypothesize in your research. Indicate in the table below your hypothesized treatment effects (i.e., your dependent variables), their operationalization, and their measurement. Also indicate the treatment effect's hypothesized cause (i.e., treatments/independent variables) and the hypothesized direction of the relationship between independent and dependent variables.

Independent, Dependent Variables and Hypothesized Relationship	**Operationalization of Dependent Variable[10]**	**Method of Measuring Dependent Variable**	**Type of analysis and Statistical Test[11] (Note: We will also calculate effect sizes.)**
E will have a higher rate than Cs of "engagement" in treatment in the first 90 days after release	At least two visits with mental health/substance abuse clinician and an on-going open case at 3 months	INSYST (Behavioral Health Care MIS and billing system)	Survival analysis with "failure" defined statistically as no on-going case at 3 months. [Likelihood Ratio Chi-2 in Cox model]
Of those clients who are "engaged" at 3 months a higher proportion of Es than Cs will be retained in community treatment over the duration of the study	Open and active case in MH/AOD service system.	INSYST record (by month) of whether a case is open for the client anywhere in the system.	Multiple failure survival analysis[12] [Likelihood Ratio Chi-2 in Cox model]

[10] We have listed the most critical measures. Since we will be collecting, as required by the Board of Corrections, a variety of additional similar criminal justice, mental health and social functioning quantitative variables we will use them as appropriate. Please note, however, that except as specified here we are not establishing any *new* systems or requiring any new data elements to be collected. We will compile the Data Dictionary items to the extent that they are available but will not collect Data Dictionary elements for persons who are not already subject to these data collection requirements. For example, Performance Outcome System data are collected only on clients who meet medical necessity and other criteria. We do not propose to change those criteria.

[11] In all these analyses we will control for baseline characteristics made relevant by differential study attrition, if necessary.

[12] Using the very extensive survival analysis tools in the *Stata* statistical package.

Es will have fewer and less intensive contacts with the criminal justice system than Cs.[13]	▪ Arrests ▪ Jail days	Criminal justice data system: "Criminal Oriented Records Production Unified System" or CORPUS	Multiple failure survival analysis for recidivist incidents. [Likelihood Ratio Chi-2 in Cox model] Panel regression model for "count" data for days and arrests over time. [Wald Chi-2 for model; z score for significance of treatment dummy using XTPOIS in the STATA package.]
Es will cost the criminal justice system less than Cs	▪ Jail and booking costs ▪ MH/SA service costs	▪ Sheriff's cost figures ▪ Behavioral health MIS (INSYT)	See "Cost Benefit" section below
Es will have less "negative" utilization of the MH/SA system	▪ Psychiatric hospitalizations and inpatient days ▪ Detoxification episodes	Behavioral health MIS (INSYT)	Panel regression model for "count" data for days and arrests over time. [Wald Chi-2 for model; z score for significance of treatment dummy using XTGEE in the STATA package.]
Es will be more satisfied with their MH/SA services and their quality of life than Cs	▪ MHSIP ▪ Lehman Quality of Life Scale	Modification of the Performance Outcome System used with all SMI individual in Alameda Behavioral Health Care system[14]	Panel regression model. [Wald Chi-2 for model; z score for significance of treatment dummy using XTGEE in the STATA package.]
Es will have higher functional ratings than Cs	▪ Multnomah Community Abilities Scale as modified by Ohio state outcomes system	Administration by case managers. For study subjects who do not have a case manager, we will attempt to have the "objective" part of the scale (covering housing for example) filled out through phone contact with a collateral	Panel regression model. [Wald Chi-2 for model; z score for significance of treatment dummy using XTGEE in the STATA package.]

[13] A recent study of legal system involvement of dual diagnosis clients in an integrated program found reduced arrests in the ACT clients but not reduced contacts that did not result in arrests. Clark, R. E., Ricketts, S. K., & McHugo, G. J. (1999). Legal system involvement and costs for persons in treatment for severe mental illness and substance use disorders. *Psychiatric Services, 50*(5), 641-647.

[14] The modification necessary is in the scheduling of these instruments more frequently and at comparable times for experimental and control clients.

Note that other than client satisfaction and quality of life we have not relied on client self-report measures and do not plan client interviews subsequent to the diagnostic and eligibility evaluation done in-custody. This is due to the poor reliability of self-report instruments with a dual diagnosis population. The Addiction Severity Index, for example, has unacceptably low interrater and test-retest reliability as well as poor criterion validity.[15]

Although our hypotheses cover a wide range of outcomes, the outcomes themselves are hierarchical. Of primary importance is jail recidivism, closely followed by other law enforcement contacts. The second tier of importance is treatment engagement and retention. The third tier is measures associated with stable treatment—quality of life and satisfaction with services. The third tier in fact is of interest (and therefore is only measured in the context of stable treatment) only if outcomes in the first two tiers are positive.

Statistical Analyses:

Based on the table in #11 above, formulate your hypotheses and determine the statistical test(s) you will use to test each hypothesis. Enter these into the following table.

This has been added to the table in #11 above. Please refer the right hand column.

Cost/Benefit Analysis:

Please indicate whether you will be conducting a Program cost/benefit analysis of the program (optional).

Cost/Benefit Analysis			
X	Yes		No

If you will conduct a cost/benefit analysis, describe what it will focus on and how it will be performed.

Response:

A "true" cost-benefit analysis is beyond the scope of this study. In line with other counties who have indicated they will include a cost-benefit approach, our design is of more limited scope.

- We will calculate the costs of jail days and booking for each recidivist episode and for the baseline period. We will attempt to generate reliable cost figures for arrests, for court appearances (DA and PD as well as the court) and for probation. A previous very detailed cost study of criminal justice costs for dual diagnosis offenders showed that arrest, court and incarceration costs make up the overwhelming share of criminal justice costs.[16] If study participants are sent to state prison we will use aggregate per person costs for prison costs.
- Because of "regression to the mean" and the improved in-custody services Alameda is introducing, we would expect both groups (since they are selected at a time of high utilization of the criminal justice system) to have lower jail/booking costs in the study period. The cost-benefit ratio we will calculate, however, is the greater criminal justice cost reduction for the experimental group over the control group. So for example, if costs are reduced per client from $1000 to $500 among the controls (a ratio of 2:1) and from $1000 to $250 among the experimental group (a ratio of 4:1), we would conclude the experimental program produced twice the cost benefits of the "usual services."
- We will also replicate the criminal justice to mental health cost ratio design proposed by San Francisco County's MIOCR program. We will compute the average mental health/substance abuse treatment costs per client in each study group and the average jail/booking costs per client in each study group and compare the

[15] Carey, K., Cocco, K., & Correia, C. (1997). Reliability and validity of the addiction severity index among outpatients with severe mental illness. *Psychological Assessment, 9*(4), 422-428; and Zanis, D., McLellan, A., & Corse, S. (1997). Is the Addiction Severity Index a reliable and valid assessment instrument among clients with severe and persistent mental illness and substance abuse disorders? *Community Mental Health Journal, 33*(3), 213-227.

[16] Clark, R. E., Ricketts, S. K., & McHugo, G. J. (1999). Legal system involvement and costs for persons in treatment for severe mental illness and substance use disorders. *Psychiatr Serv, 50*(5), 641-647.

ratio in each study group of mental health to criminal justice costs. This is a group of clients who, by virtue of the difficulty of engaging them in treatment, currently incur high criminal justice costs but minimal mental health costs. In other words the ratio of criminal justice costs to treatment costs is high. We would expect this ratio to be greatly reduced or reversed for the experimental group: treatment costs should be much greater than criminal justice costs. (We will conduct the analysis both including and excluding psychiatric inpatient services which are high cost mental health services but do not reflect the stable provision of community-based care.)

Process Evaluation:

How will the process evaluation be performed? That is, how will you determine that the program has been implemented as planned and expressed in your proposal? Please include a description of how will you will record and document deviations of implementation from the original proposal. Also, please identify who will conduct this evaluation and who will document the results of the evaluation.

Response:

A site visit by the independent evaluator will be conducted of the in-custody/transition program and the CHANGES program during the study group assignment period. Two other site visits will be scheduled at 9 month intervals. [Approximately 3 months, 12 months, and 21 months into the program.] The evaluator will be supplemented on site visits by a mental health consultant and an AOD/dual diagnosis consultant. Documentation of results is provided by the contractor as part of a series of scheduled reports.

During implementation the evaluator will consult frequently with custody staff, program staff and on-site data and evaluation staff. Documentation of essentials of the program (staffing, program elements) will be drawn from Contractor contract documents. The Contractor will also have a contract monitor from Alameda County Behavioral Health Care to assure accurate implementation.

Program Completion:

What criteria will be used to determine when research participants have received the full measure of their treatment? For instance, will the program run for a specified amount of time irrespective of the participants' improvement or lack thereof? If so, how long? Alternatively, will completion be determined when participants have achieved a particular outcome? If so, what will that outcome be and how will it be measured (e.g., decreased risk as measured by a "level of functioning" instrument)?

Response:

The CHANGES clients to be served have serious and persistent mental illness. They will be continued in treatment to the extent possible throughout the duration of the project (and beyond).[17] The enhanced follow-up services for the control group end after 60 days.

Participant Losses:

For what reasons might participants be terminated from the program and be deemed to have failed to complete the program? Will you continue to track the outcome measures (i.e., dependent variables) of those who leave, drop out, fail, or are terminated from the program? For how long will you track these outcome measures?

Response:

Clients may be terminated from the CHANGES program in the following ways:

[17] One study of an ACT based dual diagnosis program did not have clearly different outcomes until after four years.

- The client requests to leave the program in writing and follows a prescribed series of steps of consultation with staff including a 30 day waiting period.
- The client moves away from Alameda County, is in jail or prison or a hospital or skilled nursing facility for 120 consecutive days.
- As noted above, termination from the CHANGES program or dropping out of “usual treatment” does not change study participation. Because of the time needed for analysis, the study period will end six months before the end of the grant period (assuming the final report is due 90 days after the end of the grant period).